Amendments to the Claims

1.   (Currently Amended) A method for generating an estimate of the geo-location of a frequency hopping mobile appliance operating within a wireless communication system with a plurality of base stations and having a network overlay geo-location system with a plurality of wireless location sensors, comprising the steps of:

monitoring at the wireless location sensors a signal on a forward channel between one of the plurality of base stations and the mobile appliance;

retrieving at said wireless location sensors synchronization information from the forward channel;

synchronizing a property of said wireless location sensors with a reverse channel between the mobile appliance and the base station as a function of the synchronization information from the forward channel to thereby receive at said wireless location sensors a signal on the reverse channel;

measuring at said wireless location sensors an attribute of the reverse channel signal; and,

generating an estimate of the geo-location of the mobile appliance based in part upon the measured attribute.

2.   (Original) The method of Claim 1 wherein the step of monitoring is accomplished by a dedicated receiver at said wireless location sensors.

3.   (Original) The method of Claim 1 further comprising the step of receiving in said wireless location system channel assignment information including hopping sequence.

4.   (Original) The method of Claim 1 wherein the synchronization information comprises hopping sequence position.

5.   (Original) The method of Claim 1 wherein the synchronization information comprises hopping sequence phase information.

6.   (Original) The method of Claim 1 further comprising the step of referencing the synchronization information with a network overlay clock.

7.   (Original) The method of Claim 6 further comprising the step of changing the monitoring frequency of the plurality of wireless location sensors based at least in part on the network overlay clock.

8.   (Original) The method of Claim 1 wherein the plurality of wireless location sensors change monitoring frequency based in part on the synchronization information.

9.   (Original) In a method for geo-locating a mobile appliance comprising the steps of retrieving channel assignment information from a geolocation control system, monitoring a reverse channel at a plurality of sensors for a signal from the mobile appliance, measuring an attribute of the reverse channel signal at the plurality of sensors, and determining the location of the wireless appliance from the measured reverse channel signal attributes,

the improvement comprising the steps of:

monitoring a signal in the forward channel to the mobile appliance;

retrieving synchronization information from the forward channel signal;

determining synchronization information for the reverse channel from the synchronization information retrieved from the forward channel;

monitoring the reverse channel as a function of the determined synchronization information; and,

measuring an attribute of a signal in the reverse channel from the mobile appliance to thereby geo-locate the mobile appliance.

10.   (Original) The method of Claim 9 wherein the forward channel is a frequency hopping channel.

11.   (Original) The method of Claim 10 wherein the reverse channel is a frequency hopping channel.

12.   (Original) The method of Claim 11 including the step of receiving channel assignment information including hopping sequence and hop duration.

13.   (Original) The method of Claim 11 wherein the synchronization information for the reverse channel comprises hopping sequence position.

14.   (Original) The method of Claim 11 wherein the synchronization information for the reverse channel comprises phase information.

15.   (Original) The method of Claim 11 further comprising the step of referencing the synchronization information with a network overlay clock.

16.   (Original) The method of Claim 15 further comprising the step of changing the monitoring frequency of the plurality of sensors based on the network overlay clock.

17.   (Original) The method of Claim 11 wherein the plurality of sensors change monitoring frequency based in part on the synchronization information.

18.   (Currently Amended) A system for generating an estimate of the geo-location of a frequency hopping mobile appliance operating within a wireless

communication system with a plurality of base stations and having a network overlay geo-location system, comprising:

plural wireless location sensors for:

monitoring a signal on a forward channel between one of said plurality of base stations and the mobile appliance;

retrieving synchronization information from said forward channel;

synchronizing a property of the plural wireless location sensors with a reverse channel between the mobile appliance and the base station as a function of the synchronization information from the forward channel to thereby receive a signal on the reverse channel; and

measuring an attribute of the reverse channel signal;

a geolocation control system operably connected to each of said plural wireless location sensors for generating an estimate of the geo-location of the mobile appliance based in part upon the measured attribute from said plural wireless location sensors.

19. (Original) The system of Claim 18 further comprising circuitry for providing a stable time reference.

20. (Original) The system of Claim 19 wherein said circuitry is operably connected to each of said plurality of sensors.

21. (Original) The system of Claim 20 wherein said plurality of sensors are tuned to the reverse communication channel between the mobile appliance and one of the plural base station using said stable time reference.

22. (Original) The system of Claim 19 wherein said circuitry is a global positioning system clock.

23. (Cancelled)

24.   (Currently Amended) The method of Claim [[23]] 30 further comprising the step of referencing the synchronization information to a system clock.

25.   (Original) The method of Claim 24 wherein the plurality of sensors are tuned to the reverse channel using the system clock.

26.   (Original) The method of Claim 25 wherein the system clock is a global positioning system clock.

27.   (Original) The method of Claim 6 further comprising the step of changing the monitoring frequency of the plurality of wireless location sensors based at least in part on a GSM system clock.

28.   (New) The method of claim 1, wherein the property of said wireless location sensor is selected from the group consisting of hopping sequence, hopping sequence position, hopping sequence phase and monitoring frequency.

29.   (New) The method of claim 18, wherein the property of said wireless location sensor is selected from the group consisting of hopping sequence, hopping sequence position, hopping sequence phase and monitoring frequency.

30.   (New) A method of geo-location of the wireless appliance in a wireless communication system with plural base stations and a network overlay geo-location system with a plurality of sensors comprising the steps of:

communicating from one of the plural base stations to the wireless appliance over a forward channel;

communication from the wireless appliance to the one of the plural base stations over a reverse channel;

monitoring the forward channel for synchronization information;

and tuning a property of the plurality of sensors to the reverse channel with the synchronization information;

wherein the reverse channel is a frequency hopping channel and the forward channel contains information to synchronize a property of the base station with the hopping sequence of the mobile appliance over the reverse channel.